Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended). In a partitionable computer system including a plurality of machine resources having a plurality of machine resource identifiers, a method for creating a physical resource identifier space in a partition of the partitionable computer system, the method comprising steps of:

(A) establishing a mapping between a plurality of physical resource identifiers and at least some of the plurality of machine resource identifiers, wherein the plurality of physical resource identifiers are numbered sequentially beginning with zero, and wherein the mapping defines a non-monotonic function; and

(B) providing, to an operating system executing in the partition, an interface for the operating system to access the at least some of the plurality of machine resources using the plurality of physical resource identifiers.

Claim 2 (previously presented). The method of claim 1, wherein the plurality of machine resources comprises a plurality of machine memory locations, wherein the plurality of machine resource identifiers comprises a plurality of machine memory addresses, and

wherein the plurality of physical resource identifiers comprises a plurality of physical memory addresses.

Claim 3 (original). The method of claim 1, further comprising a step of performing the steps (A) and (B) for each of a plurality of partitions of the partitionable computer.

Claim 4 (original). The method of claim 1, wherein the step (A) comprises a step of creating an address translation table that records the mapping between the plurality of physical resource identifiers and the at least some of the plurality of machine resource identifiers.

Claim 5 (original). The method of claim 1, wherein the interface comprises means for translating a physical resource identifier selected from among the plurality of physical resource identifiers into one of the plurality of machine resource identifiers in accordance with the mapping.

Claim 6 (canceled).

Claim 7 (canceled).

Claim 8 (currently amended). In a partitionable computer system including a plurality of machine resources having a plurality of machine resource identifiers, an apparatus comprising:

mapping means for establishing a mapping between a plurality of physical resource identifiers and at least some of the plurality of machine resource identifiers, wherein the plurality of physical resource identifiers are numbered sequentially beginning with zero, and wherein the mapping defines a non-monotonic function; and

interface means for accessing the at least some of the plurality of machine resources in response to requests from an operating system executing in a partition of the partitionable computer system, wherein the requests identify the at least some of the plurality of machine resources using the plurality of physical resource identifiers.

Claim 9 (previously presented). The apparatus of claim 8, wherein the plurality of machine resources comprises a plurality of machine memory locations, wherein the plurality of machine resource identifiers comprises a plurality of machine memory addresses, and wherein the plurality of physical resource identifiers comprises a plurality of physical memory addresses.

Claim 10 (original). The apparatus of claim 8, wherein the mapping means comprises means for creating an address translation table that records the mapping between the plurality of physical resource identifiers and the at least some of the plurality of machine resource identifiers.

Claim 11 (original). The apparatus of claim 8, wherein the interface means comprises means for translating a physical resource identifier selected from among the plurality of physical resource identifiers into one of the plurality of machine resource identifiers in accordance with the mapping.

Claim 12 (canceled).

Claim 13 (canceled).

Claim 14 (currently amended). In a partitionable computer system including a plurality of machine resources having a plurality of machine resource identifiers, a method for accessing a select one of the plurality of machine resources specified by a physical resource identifier provided by an operating system executing in a

partition in the partitionable computer system, the method comprising steps of:

(A) identifying a mapping associated with the partition, wherein the mapping maps a plurality of physical resource identifiers in a sequential zero-based physical resource identifier space of the partition to at least some of the plurality of machine resource identifiers, and wherein the mapping defines a non-monotonic function;

(B) translating the physical resource identifier into a machine resource identifier using the mapping, wherein the machine resource identifier specifies the select one of the plurality of machine resources; and

(C) causing the select one of the plurality of machine resources to be accessed using the machine resource identifier.

Claim 15 (previously presented). The method of claim 14, wherein the plurality of machine resources comprises a plurality of machine memory locations, wherein the plurality of machine resource identifiers comprises a plurality of machine memory addresses, and wherein the plurality of physical resource identifiers comprises a plurality of physical memory addresses.

Claim 16 (original). The method of claim 14, wherein the step (C) comprises a step of reading a datum from the machine memory address.

Claim 17 (original). The method of claim 14, wherein the step (C) comprises a step of writing a datum to the machine memory address.

Claim 18 (currently amended). In a partitionable computer system including a plurality of machine resources having a plurality of machine resource identifiers, an apparatus for accessing a select one of the plurality of machine resources specified by a physical resource identifier provided by an operating system executing in a partition in the partitionable computer system, the apparatus comprising:

means for identifying a mapping associated with the partition, wherein the mapping maps a plurality of physical resource identifiers in a sequential zero-based physical resource identifier space of the partition to at least some of the plurality of machine resource identifiers, and wherein the mapping defines a non-monotonic function;

means for translating the physical resource identifier into a machine resource identifier using the mapping, wherein the machine resource identifier specifies the select one of the plurality of machine resources; and

means for causing the select one of the plurality of machine resources to be accessed using the machine resource identifier.

Claim 19 (previously presented). The apparatus of claim 18, wherein the plurality of machine resources comprises a plurality of machine memory locations, wherein the plurality of machine resource identifiers comprises a plurality of machine memory addresses, and wherein the plurality of physical resource identifiers comprises a plurality of physical memory addresses.

Claim 20 (original). The apparatus of claim 18, wherein the means for accessing comprises means for reading a datum from the machine memory address.

Claim 21 (original). The apparatus of claim 18, wherein the means for accessing comprises a means for writing a datum to the machine memory address.

Claim 22 (canceled).

Claim 23 (currently amended). In a partitionable computer system including a plurality of machine memory locations having a

plurality of machine memory addresses, the partitionable computer system further including a plurality of physical memory locations having a plurality of physical memory addresses that are mapped to at least some of the plurality of machine memory addresses, the mapping defining a non-monotonic function, the partitionable computer system further including a plurality of partitions executing a plurality of software programs, a method comprising steps of:

(A) selecting a first subset of the plurality of physical memory locations, the first subset of the plurality of memory locations being mapped to a first subset of the plurality of machine memory addresses; and

(B) remapping the first subset of the plurality of memory locations to a second subset of the plurality of machine memory addresses without rebooting the partitionable computer system.

Claim 24 (canceled).

Claim 25 (currently amended). In a partitionable computer system including a plurality of machine memory locations having a plurality of machine memory addresses, the partitionable computer system further including a plurality of physical memory locations having a plurality of physical memory addresses that are mapped to at least some of the plurality of machine memory addresses, the

mapping defining a non-monotonic function, the partitionable computer system further including a plurality of partitions executing a plurality of software programs, an apparatus comprising:

means for selecting a first subset of the plurality of physical memory locations, the first subset of the plurality of memory locations being mapped to a first subset of the plurality of machine memory addresses; and

means for remapping the first subset of the plurality of memory locations to a second subset of the plurality of machine memory addresses without rebooting the partitionable computer system.

Claim 26 (canceled).

Claim 27 (new). The method of claim 1, wherein the interface comprises a Content Addressable Memory that establishes the mapping.

Claim 28 (new). The method of claim 8, wherein the interface means comprises a Content Addressable Memory that establishes the mapping.

Claim 29 (new). The method of claim 18, wherein the means for translating comprises a Content Addressable Memory.

Claim 30 (new). The method of claim 23, further comprising a step of:

(C) prior to the step (B), copying the contents of the first subset of the plurality of machine memory addresses to the second subset of the plurality of machine memory addresses.

Claim 31 (new). The apparatus of claim 25, further comprising:

means for copying the contents of the first subset of the plurality of machine memory addresses to the second subset of the plurality of machine memory addresses.